



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,364	12/21/2001	Christen K. Pedersen	100110549	4967

7590 07/12/2004

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

LEFLORE, LAUREL E

ART UNIT	PAPER NUMBER
----------	--------------

2673

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,364

Applicant(s)

PEDERSEN, CHRISTEN K.

Examiner

Laurel E LeFlore

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 4, 6, 7, 9, 10, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Alden 2003/0038928 A1.

3. In regard to claims 1 and 10, Alden discloses a display projection system, wherein data is viewable via a projected display and the display projection system is implementable in a portable electronic device. See paragraph [0035], beginning on page 2, disclosing, "FIG. 1 illustrates a means for projecting an image from a handheld device in wireless communication with a computer...A user is able to input data via input keys 26."

The display projection system of Alden comprises an image generator for providing a beam comprising data to be displayed and an optical component to provide collimation of said beam. Again see paragraph [0035], disclosing, "A LCD Logic and LCD Drivers 31...conveys video image signals to a transparent LCD display 35...A light bulb 37 produces bright light 39 which passes through a collimating lens 41...The light

then passes through a first lens 44 and a second lens 45 which causes the collimated light...to be displayed as an image on a wall 50.”

Further see figure 16 and paragraph [0050], which disclose another display projection system of Alden with the above properties that uses a DMD (Digital Micromirror Device).

Alden further discloses that function of the projected display are selectable by tilting the display projection system. See figure 1 and paragraph [0035], disclosing “means to sense movement of a handheld device relative to an image projected therefrom. The sensing means ride on (and are attached to) the 49 to maximize stabilizing effectiveness and efficiency. Signals to 63 coming from an inclination signal wire 61, a displacement wire 70, and wires from the 74. The 63 relays information to a CPU 29 which compares the information to that stored in a memory 28 and calculates what actions are required to ensure that the image position (on 50) produced by the light emanating from the elements within 49 remains steady.” It is inherent that “movement of a handheld device” includes tilting. Thus, the “functions of the projected display that are selectable” include stabilization of the image.

4. In regard to claim 3, Alden discloses an adjustable reflecting mechanism for directing the beam. See figure 21, a component of the system of figure 16, and paragraph [0056], disclosing “FIG. 21 illustrates the components of a reflective means to project an image comprising a DMD...The DM1 mirrors 261 are a vast array of tiny mirrors each with electronic actuators all mounted onto a DLP Board 259. A processor 263 in combination with memory 265 control the position of each mirror at any given

moment such that a coherent color image 269 is projected from a 267 lens onto a surface 271.”

Also see figure 12 and paragraph [0046] disclosing, the 65 IR LED sends the 69 beam to 50 where it reflects as 71 to be received 66...Additionally the lens adjusting motor 72 has 45 positioned in a first position which thereby produces a first focal length on 47 rays and an image size at 50.”

5. In regard to claim 4, Alden discloses that the image generator is a laser-type image generator. See paragraph [0082], disclosing, “Many other variations are possible...some specific examples include using...a laser light source.” Further see paragraph [0005], disclosing that “projected laser light can be used to draw images”.

6. In regard to claims 6 and 14, Alden discloses that the image generator is a transmissive liquid crystal display projection image generator. See figure 1 and rejection of claim 1. Further see that paragraph [0035] discloses, “When the 39 light passes through the LCD display 5, it becomes colored by passing through the pixels in 35”. Thus, a transmissive liquid crystal display projection image generator is disclosed. Also see figure 8 and paragraph [0042] disclosing, “FIG. 8 illustrates the transmissive means for projecting an image of FIGS. 1 and 2.

7. In regard to claim 9, Alden discloses that the adjustable reflecting mechanism is further adapted to focus the image generated. See figure 12 and paragraph [0046] disclosing, the 65 IR LED sends the 69 beam to 50 where it reflects as 71 to be received 66...Additionally the lens adjusting motor 72 has 45 positioned in a first

position which thereby produces a first focal length on 47 rays". It is understood that adjusting the focal length focuses the image.

8. In regard to claims 7 and 15, Alden discloses that the image generator is a reflective digital light panel projection image generator. See rejections of claims 1 and 3 disclosing a DMD (Digital Micromirror Device), which is a reflective digital light panel, as best understood.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alden 2003/0038928 A1 in view of Albers et al. 4,505,558.

In regard to claims 2 and 11, Alden discloses an invention similar to that which is claimed in claims 2 and 11. See rejection of claims 1 and 10 for similarities. Alden does not disclose an optional optical attenuator.

Albers discloses a projection system with an optical attenuator. See column 1, lines 11-23, disclosing, "It is well known in the art that images projected by the optical system of image projection apparatus may be modified in order to improve the quality of the observed picture. Such modification may be carried out by attenuating the projected light in an intermediate image plane of a single optical system, or in a plurality of optical systems in multi-channel projection apparatus. Attenuators which perform these

functions may modify either the shape, or the intensity, or both, of the projected images, or of portions thereof. “

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden by including an optional optical attenuator, as in the invention of Albers. One would have been motivated to make such a change based on the teaching of Albers that it is well known in the art to improve the quality of the observed projection picture by attenuating projected light to “modify either the shape, or the intensity, or both, of the projected images, or of portions thereof.”

11. Claims 5, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alden 2003/0038928 A1 in view of Gibeau et al. 5,614,961.

In regard to claims 5, 8, 12 and 13, Alden discloses an invention similar to that which is disclosed in claims 5, 8, 12 and 13. See rejections of claims 1, 3, 4, 9 and 10 for similarities. Alden does not disclose that the laser-type image generator comprises a scanning mechanism, controlled by the adjustable reflecting mechanism, for painting the beam.

Gibeau et al. discloses an invention in which a laser-type image generator is used for image projection. Gibeau teaches in column 2, lines 7-32, “Brighter video projectors have been constructed using lasers. In such systems, generally, full color picture (or frame) is produced at the viewing screen by projecting a series of pixels using a combination of rotating and deflection mirrors. With proper synchronization, the rotating mirror scans the white light beam horizontally across the screen, sequentially painting a row of pixels; the deflection mirror simultaneously moves the white light beam

vertically down the screen, filling out the picture frame one line of pixels at a time. At any given instant, the white light beam illuminates a given pixel in the frame with the appropriate luminance and chrominance.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden using the laser-type image generator comprises a scanning mechanism, controlled by the adjustable reflecting mechanism, for painting the beam, as in the invention of Gibeau. One would have been motivated to make such a modification based on the teaching of Gibeau that such a techniques has been used with the result of “brighter video projectors”. Further, it is common in a laser-type image generator to include a scanning mechanism for painting the beam and to have such a scanning mechanism controlled by adjustable mirrors, or any type of adjustable reflecting mechanism.

12. Claims 16, 19, 21-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alden 2003/0038928 A1 in view of Lichtfuss 2002/0175915 A1.

13. In regard to claim 16, Alden discloses an invention similar to that which is disclosed in claim 16. See rejection of claim 1 for similarities. Alden further discloses a communication device coupled to the portable electronic device enabling intercommunication with other electronic devices. Note elements 25 and 27 of figure 1, depicting a wireless transmitter and receiver. Further see paragraph [0035], disclosing, “A wireless transmitter 25 sends signal which are carried by a network 24. A receiver 27 receives signals from the network. Such sending and receiving means being those

common to cells (sic) phones, PDAs and many other hand held devices and comprising a wireless means to communicate with a remote computer.”

Alden further discloses an input device coupled to said portable electronic device. See figure 1, element 26, depicting input keys and paragraph [0035], disclosing “A user is able to input data via input keys 26.”

Alden further discloses the display projected onto a surface, the surface external of said portable electronic device. Note element 50 of figure 1 and see paragraph [0009] disclosing “a means to project an image onto any remote surface.”

Alden does not disclose a verbal input device coupled to the portable electronic device for receiving voice commands.

Lichtfuss discloses an portable image projector coupled to a verbal input device for receiving voice commands. See paragraph [0047] disclosing, “a human being or a computer using speech recognition, could monitor the speaker, or the audience, and in response to questions...,research data on the World Wide Web or other resource, and have such data displayed employing projector 100.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden by having a verbal input device coupled to the portable electronic device for receiving voice commands, as in the invention of Lichtfuss. One would have been motivated to make such a change based on the teaching of Lichtfuss to use speech recognition to “monitor the speaker, or the audience...and have such data displayed employing projector”.

14. In regard to claim 19, Alden discloses that the communication device is a wireless communication device. See rejection of claim 16.

15. In regard to claim 21, Alden discloses an invention similar to that which is claimed in claim 21. Alden does not disclose that the input device is configured as a handwriting memory device.

Lichtfuss discloses in paragraph [0043], "An alternative mechanism for providing data entry to projector 100 is to deploy a pad for handwriting recognition either on projector 100 or on a device in communication therewith. A user could write out web addresses for the projector to access, transmit instructions to projector 100 and/or the web site, and/or submit text and/or graphical data for interpretation, processing, and ultimate presentation by projector 100 on projection screen 104." It is understood that a pad for handwriting recognition is a handwriting memory device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden by having the input device be a handwriting memory device, as in the invention of Lichtfuss. One would have been motivated to make such a change based on the teaching of Lichtfuss to "deploy a pad with handwriting recognition...on projector" so that, "A user could write out web addresses for the projector to access, transmit instructions to projector 100 and/or the web site, and/or submit text and/or graphical data for interpretation, processing, and ultimate presentation by projector 100 on projection screen 104." Further, the incorporation of a handwriting memory device is common in portable electronic devices.

Art Unit: 2673

16. In regard to claim 22, see rejection of claim 21. It is understood that "a pad with handwriting recognition" is a optical character recognition device.

17. In regard to claim 23, Alden discloses that the image generator is a laser-type image generator. See rejection of claim 4.

18. In regard to claim 25, Alden discloses that the image generator is a transmissive liquid crystal display projection image generator. See rejection of claim 6.

19. In regard to claim 26, Alden discloses that the image generator is a reflective digital panel projection image generator. See rejection of claim 7.

20. In regard to claim 27, Alden in view of Lichtfuss does not disclose that the shape and size of the portable electronic device is pen-like. However, change in size or shape is a matter of design choice and such a "pen-like" size and shape is functionally equivalent to the size and shape of the hand-held projector of Alden. (In re Rose, 105 USPQ 237 (CCPA 1955); In re Dailey, 149 USPQ 47 (CCPA 1976)).

21. Claims 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alden 2003/0038928 A1 in view of Lichtfuss 2002/0175915 A1 as applied to claims 16 and 23 above, and further in view of Gibeau et al. 5,614,961.

In regard to claims 17 and 24, Alden discloses an invention similar to that which is disclosed in claims 16 and 23. See rejections of claims 3, 16 and 23 for similarities. Alden in view of Lichtfuss does not disclose that the laser-type image generator comprises a scanning mechanism, controlled by the adjustable reflecting mechanism, for painting the beam.

Gibeau et al. discloses an invention in which a laser-type image generator is used for image projection. Gibeau teaches in column 2, lines 7-32, "Brighter video projectors have been constructed using lasers. In such systems, generally, full color picture (or frame) is produced at the viewing screen by projecting a series of pixels using a combination of rotating and deflection mirrors. With proper synchronization, the rotating mirror scans the white light beam horizontally across the screen, sequentially painting a row of pixels; the deflection mirror simultaneously moves the white light beam vertically down the screen, filling out the picture frame one line of pixels at a time. At any given instant, the white light beam illuminates a given pixel in the frame with the appropriate luminance and chrominance."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden in view of Lichtfuss using the laser-type image generator comprises a scanning mechanism, controlled by the adjustable reflecting mechanism, for painting the beam, as in the invention of Gibeau. One would have been motivated to make such a modification based on the teaching of Gibeau that such a techniques has been used with the result of "brighter video projectors". Further, it is common in a laser-type image generator to include a scanning mechanism for painting the beam and to have such a scanning mechanism controlled by adjustable mirrors, or any type of adjustable reflecting mechanism.

22. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alden 2003/0038928 A1 in view of Lichtfuss 2002/0175915 A1 as applied to claim 16 above, and further in view of Albers et al. 4,505,558.

In regard to claim 18, Alden in view of Lichtfuss discloses an invention similar to that which is claimed in claim 18. See rejection of claim 16 for similarities. Alden in view of Lichtfuss does not disclose an optional optical attenuator.

Albers discloses a projection system with an optical attenuator. See column 1, lines 11-23, disclosing, "It is well known in the art that images projected by the optical system of image projection apparatus may be modified in order to improve the quality of the observed picture. Such modification may be carried out by attenuating the projected light in an intermediate image plane of a single optical system, or in a plurality of optical systems in multi-channel projection apparatus. Attenuators which perform these functions may modify either the shape, or the intensity, or both, of the projected images, or of portions thereof. "

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden in view of Lichtfuss by including an optional optical attenuator, as in the invention of Albers. One would have been motivated to make such a change based on the teaching of Albers that it is well known in the art to improve the quality of the observed projection picture by attenuating projected light to "modify either the shape, or the intensity, or both, of the projected images, or of portions thereof."

23. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alden 2003/0038928 A1 in view of Lichtfuss 2002/0175915 A1 as applied to claim 16 above, and further in view of Medl 2003/0045998 A1.

In regard to claim 20, Alden in view of Lichtfuss disclose an invention similar to that which is disclosed in claim 20. Alden in view of Lichtfuss, however, are silent as to whether the communication device is a Bluetooth device.

Medl discloses an invention which uses Bluetooth as a wireless communication device. Medl further teaches in paragraph [0026], "Bluetooth is a universal radio interface in the 2.45 GHz frequency band that enables portable electronic devices to connect and communicate wirelessly via shortrange, ad hoc networks. Bluetooth technology is generally targeted towards the elimination of wires, cables, and connectors between such devices and systems as cordless or mobile phones, modems, headsets, PDAs, computers, printers, projectors, and local area networks...If a relatively short-range communication capability is acceptable for a given application, then using Bluetooth technology to communicate may reduce the complexity and cost of a navigation device."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alden in view of Lichtfuss by having the communication device be a Bluetooth device, as in the invention of Medl. One would have been motivated to make such a change based on the teaching of Medl that "Bluetooth enables portable electronic devices to connect and communicate wirelessly...Bluetooth technology is generally targeted towards the elimination of wires, cables, and connectors between such devices and systems as... projectors ...If a relatively short-range communication capability is acceptable for a given application, then using Bluetooth technology to communicate may reduce the complexity and cost".

Further, the use of Bluetooth wireless technology is widespread in any devices that communicate wirelessly.

Response to Arguments

24. Applicant has amended the specification and drawings to overcome the objection to the specification and drawings of Paper No. 2. Objection to the specification and drawings is withdrawn.

25. Applicant's arguments filed 1 June 2004 have been fully considered but they are not persuasive.

Applicant argues on pages 10-15 of Paper No. 3 that Alden does not disclose "functions of said projected display are selectable by tilting said display projection system". However, see Alden figure 1 and paragraph [0035], disclosing "means to sense movement of a handheld device relative to an image projected therefrom. The sensing means ride on (and are attached to) the 49 to maximize stabilizing effectiveness and efficiency. Signals to 63 coming from an inclination signal wire 61, a displacement wire 70, and wires from the 74. The 63 relays information to a CPU 29 which compares the information to that stored in a memory 28 and calculates what actions are required to ensure that the image position (on 50) produced by the light emanating from the elements within 49 remains steady." It is inherent that "movement of a handheld device" includes tilting. Thus, "functions of the projected display that are selectable" are disclosed by Alden and include stabilization of the image.

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LEL
9 July 2004


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600